

REMARKS

Claims 1, 3-5, 7-18, 20-22, and 24-37 were pending in the current application. Claims 1, 5, 9, 14, 18, 22, 26, 31, 33, and 36 have been amended. Claim 32 has been cancelled without prejudice in the current response. New claims 38-44 have been added. Claims 1, 3-5, 7-18, 20-22, 24-31, and 33-44 remain pending.

Examiner Interview

Applicant wishes to thank the Examiner for the telephonic interview conducted on June 28, 2007. During the Interview, Representative of Applicant discussed claim 1 and the primary reference cited against claim 1, Barth et al., U.S. Publication No. 2003/0191872 (“Barth”). No agreement was reached.

Objection to the Specification

The Specification is objected to for including an embedded hyperlink. Accordingly, Applicant has amended the Specification to replace the embedded hyperlink with plain text. Applicant respectfully requests withdrawal of the objection.

Rejections Under 35 U.S.C. § 103(a)

Claims 1, 4, 5, 8, 9, 11-15, 17, 18, 20-22, 25, 26, and 28-32, and 36 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Barth et al., U.S. Publication No. 2003/0191872 (“Barth”), and further in view of Schimke et

al., U.S. Publication No. 2002/0174197 ("Schimke"). Applicant respectfully traverses the rejection.

Claim 1 sets forth an apparatus comprising:

a disk drive housing defining a volume large enough to include *an ATA disk drive* therein, said disk drive housing having a form factor and electrical interface compatible with a fiber channel disk drive housing;

...
a programmable switch coupled to said fiber channel backplane coupling elements to control *selection of one of at least two paths, wherein the ATA disk drive is coupled to a fiber channel backplane via a selected one of the at least two paths without physically removing the ATA disk drive from the disk drive housing*;

a serial-to-parallel converter in a first one of the at least two paths, said serial-to-parallel converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said serial-to-parallel converter is capable of *receiving a set of serial ATA disk drive signals from a serial ATA disk operatively coupled to said ATA disk drive* and emitting a set of parallel ATA disk drive signals; and

a parallel-to-serial converter in a second one of the at least two paths, said parallel-to-serial converter being within said disk drive housing and coupled to said ATA disk drive coupling element, wherein said parallel-to-serial converter is capable of *receiving a set of parallel ATA disk drive signals from a parallel ATA disk operatively coupled to said ATA disk drive* and emitting a set of serial ATA disk drive signals.

(Claim 1; emphasis added)

In contrast, none of the cited references teaches the limitations set forth above. The Office Action construed Barth to disclose the programmable switch, the serial-to-parallel converter, and the parallel-to-serial converter as claimed.

Applicant respectfully disagrees with the Office Action.

According to Barth, the port assignment unit 335 *selects a port out of multiple ports 130, 210, and 215* (including both parallel port and serial ports). The parallel port 130 is for coupling to an ATA drive to receive signals from a parallel ATA disk. Likewise, the serial ports 210 and 215 are for coupling to ATA drives to receive signals from serial ATA disks. The port assignment unit 335 routes signals from the parallel port 130 and the signals from the serial ports 210 and 215 through different paths of the ATA controller to the host interface 300.

(Barth, Figure 3, paragraph [0026]) In other words, the drive drives coupled to the ports 130, 210, and 215 are coupled to the host interface 300 via different paths. In order to select a different path for a disk drive coupled to port 130, the disk drive has to be **physically removed** from port 130 and then plugged into port 210 or 215. Likewise, a drive coupled to port 210 or 215 has to be physically removed from port 210 or 215 and then plugged into port 130 in order to select a different path to couple to the host interface 300. That is, the port assignment unit 335 does not select a path out of two paths (a first path for serial ports 210 and 215 and a second path for the parallel port 130) without physically removing the disk drive.

In contrast, the programmable switch as claimed in claim 1 controls the **selection of one of the two paths**, where the serial-to-parallel converter and the parallel-to-serial converter lie. Both the serial-to-parallel converter and the parallel-to-serial converter in claim 1 are coupled to the ATA disk drive coupling element to receive signals from a serial ATA disk and a parallel ATA disk, respectively, operatively coupled to the same ATA disk drive. In other words, the serial ATA disk and the parallel ATA disk may be both operatively coupled to **the same ATA disk drive**. Therefore, Barth fails to disclose the programmable switch as claimed.

As to Schimke, the reference discloses a system having storage devices 120-130 with Fibre Channel (FC) interfaces and are coupled to a FC Arbitrated Loop (FC-AL) on a backplane provided by a hub 160. Schimke does not disclose the programmable switch, the serial-to-parallel converter, and the parallel-to-serial converter as claimed.

Since neither Barth or Schimke, alone or in combination, teaches the limitations of claim 1 set forth above, claim 1 is patentable over Barth and Schimke. Withdrawal of the rejection is respectfully requested.

For the reason discussed above with respect to claim 1, claims 5, 9, 14, 18, 22, 26, 31, and 36 are patentable over Barth in view of Schimke. Withdrawal of the rejection is respectfully requested.

Claims 4, 8, 11-13, 15, 17, 20-21, 25, 28-30, and 32 depend, directly or indirectly, from claims 1, 5, 14, 18, 22, and 31, respectively. Thus, claims 4, 8, 11-13, 15, 17, 20-21, 25, 28-30, and 32 are patentable over Barth in view of Schimke. Withdrawal of the rejection is respectfully requested.

Claims 3, 7, 10, 16, 20, 24, 27, 33-35, and 37 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Barth, Schimke, and further in view of U.S. Patent No. 6,742, 068 to Gallagher et al. ("Gallagher"). Applicant respectfully traverses the rejection.

Claims 3, 7, 10, 16, 20, 24, 27, 33-35, and 37 depend, directly or indirectly, from claims 1, 5, 14, 18, 22, 31, and 36, respectively, and thus, include the limitations set forth in their respective base claims.

For the reason discussed above with respect to claim 1, neither Barth nor Schimke discloses the programmable switch, the parallel-to-serial converter, and the serial-to-parallel converter as claimed. Further, Gallagher also fails to disclose the above limitations. According to Gallagher, a server interconnect printed circuit board 68 contains an ***Enhanced Parallel Port*** (EPP) which allows the motherboard 67 to gather vital product data and other configuration information, enables the battery backup functions, solicits on exceptional system conditions, signals the control station via the control bus, and accesses other system interfaces; and a ***Legacy Parallel Port*** (LGP) that interfaces the control station to the COMM board which contains other information/control about the system's configuration and environment (Gallagher, col. 10, lines 1-27). In sum, Gallagher merely mentions two parallel ports. Gallagher does not disclose,

suggest, or imply the programmable switch, the parallel-to-serial converter, and the serial-to-parallel converter as claimed.

Since none of Barth, Schimke, and Gallagher, alone or in combination, teaches the programmable switch, the parallel-to-serial converter, and the serial-to-parallel converter as claimed, claims 3, 7, 10, 16, 20, 24, 27, 33-35, and 37 are patentable over Barth, Schimke, and Gallagher. Withdrawal of the rejection is respectfully requested.

New claims 38-44

New claims 38-44 have been added. It is respectfully submitted that new claims 38-44 are patentable over the references cited for at least the following reasons.

New claim 38 sets forth:

a programmable switch coupled to said adaptor **to select one out of at least two paths without removing the ATA disk drive from the disk drive housing**, wherein the ATA disk drive is communicatively coupled to a serial-to-parallel converter if a first path of the at least two paths is selected and the ATA disk drive is communicatively coupled to a parallel-to-serial converter if a second path of the at least two paths is selected.

(New claim 38; emphasis added)

In contrast, none of the references cited teaches the limitation set forth above for the reason discussed above with respect to claim 1. Therefore, claim 38 is patentable over the references cited and allowance of claim 36 is earnestly solicited.

New claims 39-42 depend from claim 38, and thus, are patentable over the references cited. Allowance of claims 39-42 is earnestly solicited.

New claim 43 sets forth:

communicatively couple the one of the plurality of fiber channel backplanes to the ATA disk drive via a serial-to-parallel converter **without physically removing the ATA disk drive from the disk drive housing** in response to a first signal; and

communicatively couple the one of the plurality of fiber channel backplanes to the ATA disk drive via a parallel-to-serial converter **without physically removing the ATA disk drive from the disk drive housing** in response to a second signal.

(New claim 43; emphasis added)

In contrast, none of the references cited teaches the limitation set forth above for the reason discussed above with respect to claim 1. Therefore, claim 43 is patentable over the references cited and allowance of claim 43 is earnestly solicited.

New claim 44 depends from claim 43, and thus, is patentable over the references cited. Allowance of claims 43 is earnestly solicited.

INTERVIEW REQUEST

Applicants respectfully request a telephonic Interview with the Examiner after the Examiner has reviewed the above remarks and amendments, but prior to the Examiner issuing any further action on this matter. The Examiner is invited to contact the undersigned at (408) 720-8300.

CONCLUSION

For at least the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly solicited.

Applicants respectfully request a telephonic Interview with the Examiner after the Examiner has reviewed the above remarks and amendments, but prior to the Examiner issuing any further action on this matter. The Examiner is invited to contact the undersigned at (408) 720-8300.

Pursuant to 37 C.F.R. 1.136(a)(3), Applicant hereby requests and authorizes the U.S. Patent and Trademark Office to (1) treat any concurrent or future reply that requires a petition for extension of time as incorporating a petition for extension of time for the appropriate length of time and (2) charge all required fees, including extension of time fees and fees under 37 C.F.R. 1.16 and 1.17, to Deposit Account No. 02-2666.

Respectfully submitted,

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